

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0008] contained in the originally filed specification of the above-identified patent application with the following annotated replacement paragraph [0008].

[0008] The present invention power end seal **10** is designed for, among other purposes, use in gear boxes (not shown) for reciprocating pumps to retain the lubricants used within the gear boxes. Conventional seals used in gear boxes can exhibit special sealing concerns due to high duty cycles, extension rods on pump power ends, and other rod and shaft misalignment in low system pressure applications. The present invention power end seal **10** is a composite seal that optimizes the properties of elastomers and plastic or elastomer composite materials. The present invention power end seal **10** is generally comprised of a U-shaped, circular seal body **12** having a plurality of arced or tangentially-positioned ribs **14** disposed between an inner diameter wall **16** and the outer diameter wall **18**. Further, the present invention power end seal **10** includes an inner diameter dynamic seal **20** consisting of a plastic or elastomer filled composite material and the outer diameter rubber static seal **22**. One of the primary benefits of the present invention power end seal **10** is its flexibility to compensate for run-out, or eccentricity. In other words, the power end seal **10** can withstand a large amount of deflection and still maintain static interference in the packing bore (not shown). Another benefit of the present invention power end seal **10** is that it can withstand the above-described deflection while minimizing radial squeeze to reduce heat build up and reduce seal wear. The inner dynamic

seal **20** being comprised of plastic or elastomer filled composite material, i.e., for example PTFE, bronze filled PTFE, carbon filled PTFE or aramid fiber filled HNBR (rubber), significantly reduces the wear of the dynamic seal **20** of the seal body **12** while maintaining an effective and flexible dynamic seal **20** and static seal **22**. The plurality of tangentially positioned ribs **14** provide flexible tension between the inner wall **16** and outer wall **18** of the power end seal **10** to maintain static interference in the packing gland (not shown), which is especially useful where there is no system pressure in the power ends of the gear boxes (not shown). [[A]] An open, u-shaped channel portion **28** is defined by the internal space between the inner diameter wall **16** and the outer diameter wall **18**. A seat portion **23** is defined by the external surface of the seal body **12** affixed to a lower end of the inner diameter wall portion **16** and the lower end of the outer wall portion **18**. The plurality of ribs **14** are tangentially positioned between the inner diameter wall **16** and the outer diameter wall **18** and are attached to a top surface **30** of the channel portion **28**. The present invention power end seal **10** can be used in operating temperatures ranging from -20 to 300 degrees F. Various parts of the power end seal **10** are produced from the processes of compression, injection or transfer molded elastomer. Adhesion of the inner diameter wall **16** and outer diameter wall **18** is achieved by adhesive bonding in the molding process for dissimilar materials. Similar materials such as elastomer to fiber filled elastomer is generally achieved by the process of co-vulcanization. The use of higher modulus materials for the inner diameter dynamic seal surface **20**, generally provides that the inner dynamic seal surface **20** does not pull away from the connecting rod (not shown) during operation of the pump (not shown). Rather, diametrical

tension causes the inner diameter dynamic seal **20** to travel with the connecting rod (not shown) thus reducing leakage within the gear box (not shown). The use of plastic or elastomer filled composite material on the inner diameter dynamic seal **20** reduces the footprint or exposure of the higher friction elastomer used to form the seal body **12**. Additionally, the present invention power end seal **10** discloses various lip profiles **24**, **26** at the upper ends of the inner wall **16** and outer wall **18**. Different lip profiles can be formed to the inner wall **16** and outer wall **18** depending upon the specific application for the power end seal **10**.